

In the Claims

Applicants have submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikethrough. This listing of claims will replace all prior versions and listings of claims in the application.

1-11. (Canceled).

12. (Currently Amended) Isolated RNA of about 21 to about 23 nucleotides, in the form of two separate RNA strands, produced by the method comprising:

- (a) combining double-stranded RNA with a soluble extract that mediates RNA interference of an mRNA, thereby producing a combination; and
- (b) maintaining the combination of (a) under conditions in which the double-stranded RNA is processed to RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides in length, wherein the mRNA is mammalian cellular ~~or viral~~ mRNA.

13-15. (Canceled).

16. (Currently Amended) Isolated RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that mediates RNA interference of mRNA of a gene to be degraded produced by the method comprising:

- (a) combining double-stranded RNA that corresponds to a sequence of the gene the mRNA of which is to be degraded with a soluble extract that mediates RNA interference, thereby producing a combination; and
- (b) maintaining the combination of (a) under conditions under which the double-stranded RNA is processed to RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides that mediates RNA interference of the mRNA of the gene to be degraded, thereby producing RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides that mediates RNA interference of the mRNA, and further comprising isolating RNA of from ~~about~~

21 to ~~about~~ 23 nucleotides from the combination, wherein the mRNA is mammalian cellular mRNA ~~or viral mRNA~~.

17-75. (Canceled).

76. (Currently Amended) Isolated double-stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds, wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA ~~or viral mRNA~~.

77. (Previously Presented) Isolated double-stranded RNA of claim 76 that comprises a terminal 3' hydroxyl group.

78. (Currently Amended) Isolated double-stranded RNA ~~of claim 76~~ of from 21 to 23 nucleotides, which is chemically synthesized RNA in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds, wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA.

79-80. (Canceled).

81. (Currently Amended) A pharmaceutical composition comprising isolated double-stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds and an appropriate carrier, wherein cleavage is directed within the region of sequence correspondence with the RNA, and wherein the mRNA is mammalian cellular mRNA ~~or viral mRNA~~.

82-85. (Canceled).

86. (Currently Amended) Isolated double stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds, wherein the isolated RNA is obtained from double-stranded RNA that has been cleaved into fragments of ~~about~~ 21 to ~~about~~ 23 nucleotides, wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA ~~or viral mRNA~~.

87. (Previously Presented) Isolated RNA of claim 86 that comprises a terminal 3' hydroxyl group.

88. (Currently Amended) Isolated double stranded RNA ~~of claim 86~~ of from 21 to 23 nucleotides, which is chemically synthesized RNA in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds, wherein the isolated RNA is obtained from double-stranded RNA that has been cleaved into fragments of 21 to 23 nucleotides, wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA.

89-90. (Canceled).

91. (Currently Amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and comprising isolated double stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference of the mRNA to which it corresponds, wherein the

isolated RNA is obtained from double-stranded RNA that has been cleaved into fragments of ~~about~~ 21 to ~~about~~ 23 nucleotides, wherein the mRNA is mammalian cellular mRNA ~~or viral~~ mRNA.

92-105. (Canceled).

106. (Previously Presented) Isolated RNA of any one of claims ~~1, 43, 72, 74, 75, 76-78, 81, 82, 84, 85, 86-88 and, 91, 92, 94, and 95~~ wherein the isolated RNA is complementary to the mRNA.

107. (Canceled).

108. (Previously Presented) Isolated RNA of any one of claims ~~1, 12, 16, 43, 72, 74, 75, 76-78, 81, 82, 84, 85, 86-88 and, 91, 92, 94, and 95~~ wherein the mRNA is human mRNA.

109. (Canceled).

110. (Currently Amended) Isolated double stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA ~~or viral~~ mRNA, wherein one or more nucleotides of the isolated RNA are a non-naturally occurring nucleotide or deoxyribonucleotide or non-standard nucleotide.

111. (Canceled).

112. (Currently Amended) Isolated double stranded RNA of from ~~about~~ 21 to ~~about~~ 23 nucleotides, in the form of two separate RNA strands, that has sequence correspondence to an mRNA and mediates RNA interference by directing cleavage of the mRNA to which it corresponds, wherein the isolated RNA is obtained from double-stranded RNA that has been cleaved into fragments of ~~about~~ 21 to ~~about~~ 23 nucleotides, wherein cleavage is directed within the region of sequence correspondence with the isolated RNA, and wherein the mRNA is mammalian cellular mRNA ~~or viral mRNA~~, wherein one or more nucleotides of the isolated RNA are a non-naturally occurring nucleotide or deoxyribonucleotide or non-standard nucleotide.

113-114. (Canceled).

115. (New) Isolated RNA of any one of claims 12, 16, 76-78, 81, 86-88, 91, 110, and 112, wherein the isolated RNA is 21 nucleotides in length.

116. (New) Isolated RNA of any one of claims 12, 16, 76-78, 81, 86-88, 91, 110, and 112, wherein the isolated RNA is 22 nucleotides in length.

117. (New) Isolated RNA of any one of claims 12, 16, 76-78, 81, 86-88, 91, 110, and 112, wherein the isolated RNA is 23 nucleotides in length.

118. (New) Isolated RNA of claim 110 or 112, wherein the mRNA is human.

119. (New) Isolated RNA of claim 110 or 112 that comprises a terminal 3' hydroxyl group.

120. (New) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and comprising the isolated RNA of claim 110 or 112.

121. (New) Isolated RNA of claim 110 or 112, wherein the isolated RNA is 21 nucleotides in length.

122. (New) Isolated RNA of claim 110 or 112, wherein the isolated RNA is 22 nucleotides in length.

123. (New) Isolated RNA of claim 110 or 112, wherein the isolated RNA is 23 nucleotides in length.